

REMARKS

Claims 1, 2, 4, 5, 7-9, 12, 14-19, 22, 23, 25-28, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over US Patent 5,084,870 to Hutchinson et al. (Hutchinson) in view of US Patent Application Publication 2004/0223460 by Eldridge et al. (Eldridge). Claims 3, 6, 13, 21, 24, and 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchinson in view of Eldridge and in further view of US Patent Application Publication 2006/0153562 by Dolbec et al. (Dolbec). Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchinson in view of Eldridge and in further view of US Patent 6,381,643 to Bartfai et al. (Bartfai).

Applicants thank the Examiner for the telephone interview of December 18, 2008. We discussed the present invention and a proposed amendment. Applicants agreed to submit the amendment, and do so with this response:

Amendments to the Claims

Applicants have amended claim 1 with the limitation “...detect a new connection at a first network switch, the new connection facilitated by a first physical termination of a network cable, the first network switch forming part of a data network comprising a plurality of network switches, wherein each network switch is connected to at least one non-switch network device;”

The amendment is well supported by the specification. See page 9, ¶ 38; fig. 1, ref. 122; fig. 2, ref. 122, 202, 204. Claim 1 is also amended with the limitation “...compare the new connection to a switch connection rule if the new connection is a network switch connection, else

comparing the new connection to a non-switch connection rule, each connection rule defining-a cabling connection, a network topology, and a type of cabling, the switch connection rule allowing communication to a second network switch in a separate sub-network over two loop topology external cables and the non-switch connection rule allowing communication over a point-to-point topology sub-network cable;” The amendment is well supported by the specification. See page 11, ¶ 45; fig. 2, ref. 106, 122, 208, 202, 204. Claims 14, 15, 19, 30, and 31 are similarly amended.

Applicants have also amended claim 7 with the limitation “...determine if the new connection conflicts with an existing connection separate from the new connection on the data network....” The amendment is well supported by the specification. See page 14, ¶ 55. Claim 25 is similarly amended.

Claim 8 is amended with the limitation “...establish a connection request record stored in a network server in communication with the data network...” The amendment is well supported by the specification. See page 10, ¶ 43-44; fig. 1, ref. 102, 118. Claim 17 is similarly amended.

Applicants have amended claim 10 with the limitation “...wherein the second network device is a second network switch and the connection request record comprises a first switch identifier and a first port identifier corresponding to the first new connection and a second switch identifier and a second port identifier corresponding to the second new connection, and connection metadata...” The amendment is well supported by the specification. See page 18, ¶ 71.

Applicants have amended claim 12 and 28 to specify that the connection request record

comprises each of the device type identifier, physical location identifier, and anticipated bandwidth identifier. Claim 17 is amended with the limitations of claim 12. Applicants have also added new claim 32 that includes the limitations of claims 26 and 28.

Response to rejections of claims under 35 U.S.C. § 103(a)

Claims 1, 2, 4, 5, 7-9, 12, 14-19, 22, 23, 25-28, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchinson in view of Eldridge. Claims 3, 6, 13, 21, 24, and 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchinson in view of Eldridge and in further view of Dolbec. Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchinson in view of Eldridge and in further view of Bartfai. Applicants respectfully traverse these rejections.

Independent claim 1 includes the limitations:

“...a detection module configured to detect a new connection at a first network switch, the first network switch forming part of a data network comprising a plurality of network switches, wherein each network switch is connected to at least one non-switch network device;

a comparison module configured to compare the new connection to a switch connection rule if the new connection is a network switch connection, else compare the new connection to a non-switch connection rule, each connection rule defining a network topology and a type of cabling, **the switch connection rule allowing communication to a second network switch in a separate sub-network over two loop topology external cables and the non-switch connection rule allowing communication over a point-to-point topology sub-network cable**; and

a cabling connection module configured to control authorization of a network communication over the new connection in accordance with the connection rules.” Emphasis added.

Thus the present invention claims a data network comprising a plurality of network switches, wherein each network switch is connected to at least one non-switch network device. The present invention further claims detecting a new connection at a first network switch in the data network. The present invention claims comparing the new connection to a switch connection rule if the new connection is a network switch connection, else comparing the new connection to a non-switch connection rule. Each connection rule defines a network topology and a type of cabling. The switch connection rule allows communication to a second network switch in a separate sub-network over two loop topology external cables. The non-switch connection rule allowing communication over a point-to-point topology sub-network cable. The present invention further claims controlling authorization of a network communication over the new connection in accordance with the connection rules.

The Examiner points out that Hutchinson teaches a switch connection rule for type A, B, and M stations and a non-switch rule for type S stations. Office Action of October 10, 2008, page 3, lines 4-3, citing Hutchinson, col. 13, lines 41-59; col. 16, lines 21-40, and fig. 11-16. However, Applicants submit the combination of Hutchinson and Eldridge do not disclose the newly amended limitations of a switch connection rule that allows communication to a second network switch in a separate sub-network over two loop topology external cables and a non-switch connection rule allowing communication over a point-to-point topology sub-network cable.

Hutchinson teaches a system of stations connected by cables with adjacent stations exchanging connection information. Hutchinson, col. 3, lines 57-60; fig. 6. Connection types A and B form loop topology connections when connected to B and A connection types respectively, with communications on A-B connections going one direction and communications on B-A connection types going the opposite direction between stations. Hutchinson, col. 5. Lines 51-53; fig. 3. Connection types M and S form a single loop topology connections . Hutchinson, col. 5, lines 54-56. Connection rules include allowing A type connections to connect to B and M type connections, B type connections to connect to A type connections, and S type connections to connect to other S type connections. Hutchinson, col. 6, lines 25-31. All connections are loop topology connections, and cable types are not distinguished. Hutchinson, col. 2, lines 47-51; figs. 4, 5.

In contrast, the network switches (stations) of the present invention connect to other network switches over two loop topology external cables while connecting to non-switch network devices over point-to-point topology sub-network cables.. See claim 1.. The switch rule allows communication over the two loop topology external cables when the first switch connects to another network switch while allowing communication over the point-to-point topology sub-network cable when the first switch connects to a non-switch network device. See claim 1.

Hutchinson does not disclose connection rules allowing communication over the two loop topology external cables when the first switch connects to another network switch and allowing communication over the point-to-point topology sub-network cable when the first switch connects to a non-switch network device. In Hutchinson all connections are loop topology

connections. Hutchinson, col. 2, lines 47-51; figs. 4, 5. Hutchinson further teaches away from connection rules allowing communication over the two loop topology external cables when the first switch connects to another network switch and allowing communication over the point-to-point topology sub-network cable when the first switch connects to a non-switch network device by having using the same cabling for all connections. Hutchinson, col. 2, lines 47-51; figs. 4, 5.

Similarly, Eldridge, Dolbec, and Bartfai only teach point-to-point connections, and have no connection rules for loop topologies with alternate cables. Eldridge, fig. 2, ref. 240; Dolbec, fig. 3; Bartfai, fig. 1A. Neither Hutchinson, Eldridge, Dolbec, nor Bartfai teach connection rules allowing communication over the two loop topology external cables when the first switch connects to another network switch and allowing communication over the point-to-point topology sub-network cable when the first switch connects to a non-switch network device.

In addition, Hutchinson, Eldridge, Dolbec, and Bartfai do not teach a connection rule allowing communications to a second network switch **in a separate sub-network** over two loop topology external cables. There is no requirement in Hutchinson, Eldridge, Dolbec, and Bartfai that communicating switches must be in separate sub-networks.

Applicants therefore submit that Hutchinson, Eldridge, Dolbec, and Bartfai do not teach each limitation of claim 1. Independent claims 14, 15, 19, 30, and 31 include similar limitations.

Applicants therefore submit that claims 1, 14, 15, 19, 30, and 31 are allowable. Applicants further submit that claims 2-13, 16-18, 21-29, and 32 are allowable as depending from allowable claims.

With further regards to claim 12, claim 12 includes the limitation a "...connection request

record comprises a device type identifier, a physical location identifier, and an anticipated bandwidth identifier....” The Examiner points out that Hutchinson discloses a device type identifier, or identifying device type (A, B, M, S). OA081010, page 8, lines 17-20, citing Hutchinson, col. 13, lines 29-40; fig. 8. Applicants have amended claim 12 to specify that the connection request record comprises a device type identifier, a physical location identifier, and an anticipated bandwidth identifier. As Hutchinson and Eldridge do not disclose an anticipated bandwidth identifier, Applicants submit that claim 12 is distinguished over Hutchinson and Eldridge and is allowable. Applicants further submit that as claims 17, 28, and 32 include the limitations of claim 12, that claims 17, 28, and 32 are therefore also allowable.

Conclusion

As a result of the presented remarks, Applicants assert that the application is in condition for prompt allowance. Should additional information be required regarding the traversal of the rejections of the claims enumerated above, Examiner is respectfully asked to notify Applicants of such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

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